

Work Order ID 69621

Thursday, May 12, 2011 3:36:44 PM



Page 1

Item ID: D3560-042

Accept



Setup Start



Revision ID:

Stop



Item Name: Arm Weldment

Start Date: 5/12/2011 Start Qty: 3.00



Cust Item ID:

Required Date: 5/24/2011 Req'd Qty: 3.00



Customer:

Reference:

Approvals:

Process Plan: PDate: 11-05-12

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3560	Rev D								

100

0.00



BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut blanks 16.750" long

and 11/05/31

6 0

110

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1- Mill as per Folio FA694 Rev: AA & Dwg D3560 Rev: D
2-C'sink 0.196" hole on manual mill as per dwg D3560
3-Deburr per dwg D3560

B.A 11/06/01

11/06/02

6 0

120

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

B.A 11/06/01

6 0

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 69621

Thursday, May 12, 2011 3:36:44 PM



Page 2

Item ID: D3560-042

Accept



Setup Start



Revision ID:

Stop



Item Name: Arm Weldment

Start Date: 5/12/2011 Start Qty: 3.00



Cust Item ID:

Required Date: 5/24/2011 Req'd Qty: 3.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

on 11/06/02

6 0

Quality Control

140

Large Fab

0.00



Large Fab

Memo

0.00

11.06.07

6 0

Large Fab

1-Weld assembly as per dwg D3560

STEP:

1- clean material (buff bracket and bottom of arm with blue pad)

2- set up bracket and arm on jig

3- preheat bracket and arm with torch

4- clean before welding with brush

5- set up machine to 135 amps

6- weld across bottom and top ends

7- reheat with torch (65 deg C)

8- on one side weld from bottom to top half way

9- same for other side (half way)

10- from half way point weld the rest of the first side (ease off pedal near end)

11- same for remaining side (ease off pedal near end)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 69621

Thursday, May 12, 2011 3:36:44 PM

Page 3

Item ID: D3560-042

Accept

Setup Start

Revision ID:

Stop

Item Name: Arm Weldment

Start Date: 5/12/2011 Start Qty: 3.00

Cust Item ID:

Required Date: 5/24/2011 Req'd Qty: 3.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

S 5/06/08

x6

-042

160

QC9- Inspect visual per QSI004- Fusion Welds

0.00



QC

Memo

0.00

Quality Control

x6 05/11/06/08

170

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

6x 05/14/06/08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 69621

Thursday, May 12, 2011 3:36:44 PM



Page 4

Item ID: D3560-042

Accept



Setup Start



Revision ID:

Stop



Item Name: Arm Weldment

Start Date: 5/12/2011 Start Qty: 3.00



Cust Item ID:

Required Date: 5/24/2011 Req'd Qty: 3.00



Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

180



QC

Quality Control

QC3- Inspect Part Finish

0.00

Memo

0.00

6 6 11406100

190



Small Fab

Small Fab

Small Fab

Memo

1-Press bushing in D3560 arm per dwg D3562

0.00

0.00

E 5/10/09 @

200



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Sub 609

⑥

-047

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			



NOTE: Date & initial all entries



Work Order ID 69621

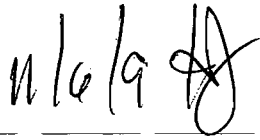
Thursday, May 12, 2011 3:36:44 PM

Page 5

Item ID:	D3560-042	Accept		Setup	Start	
Revision ID:					Stop	
Item Name:	Arm Weldment					
Start Date:	5/12/2011	Start Qty:	3.00		Cust Item ID:	
Required Date:	5/24/2011	Req'd Qty:	3.00		Customer:	
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210 	Identify as per dwg & Stock Location: <u>UA</u>	0.00							
Packaging	Memo	0.00				<u>6</u>	<u>0</u>		
Packaging	*** STOCK IN STEP CELL***								
220 	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

11/6/9 

ME
11-06-09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, May 12, 2011 3:36:50 PM

Page 1

Work Order ID: 69621

Parent Item: D3560-042

Parent Item Name: Arm Weldment



Start Date: 5/12/2011

Required Date: 5/24/2011

Start Qty: 3.00

Required Qty: 3.00

Comments: IPP Rev:A New Issue 07.05.24 EC
 IPP rev B ECN 987 07.10.09 EC verified by: DD
 IPP Rev:C ECN1048 07-12-18 DD verified by: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2808		Manufactured	No			100	Each	11.0000	1	3			
-------	--	--------------	----	--	--	-----	------	---------	---	---	--	--	--



Bushing

Location Loc Qty Loc Code

GA	11	
32896	2	
46738	9	

8/54/06/09
B69609 (42)

M6061T6B0.500X05.00		Purchased	No			140	f	16.0000	1.395	4.405263			
---------------------	--	-----------	----	--	--	-----	---	---------	-------	----------	--	--	--



6061-T6 Bar .500 x 5.00

Location Loc Qty Loc Code

MAT004	16	
112154	16	

8.37 mt 11/05/31

D3592-1		Manufactured	No			190	Each	75.0000	1	3			
---------	--	--------------	----	--	--	-----	------	---------	---	---	--	--	--



Plate

Location Loc Qty Loc Code

WA002	75	
47015	27	
48517	48	

11-06-06
5
1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	69621
Description: Arm		Part Number:	D3560-2
Inspection Dwg: D3560	Rev: D	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.507	+0.000/-0.001	Ø0.5068	✓		Micro	6A-03
Ø0.196	+0.005/-0.001	Ø0.198	✓		Vern	6A-01
Ø1.000	+0.010/-0.001	Ø1.004	✓		"	"
0.500	+/-0.010	0.495	✓		"	"
0.250	+/-0.010	0.250	✓		"	"
0.275	+/-0.010	0.275	✓		"	"
0.188	+/-0.010	0.186	✓		"	"
2.000	+/-0.010	2.000	✓		"	"
1.700	+/-0.010	1.700	✓		"	"
Ø0.385 x 100°	+/-0.010 x 0.5°	Ø0.385 x 100°	—		"	"
0.250 Deep	+/-0.010	0.247	✓		"	"

Measured by: B.A	Audited by: [Signature]	Prototype Approval:	N/A
Date: 11/06/01	Date: 11/06/02	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	07.01.17	New Issue P/O D3560-042	KJ/JLM	
B	07.06.13	Dimensions updated per Dwg Rev B	KJ/JLM	
C	09.06.11	Dwg Rev updated	KJ [Signature]	[Signature]

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

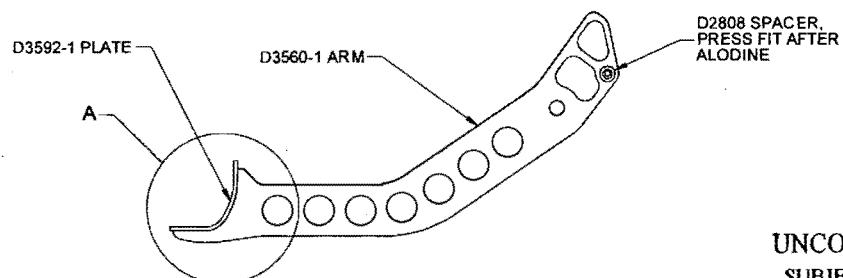
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

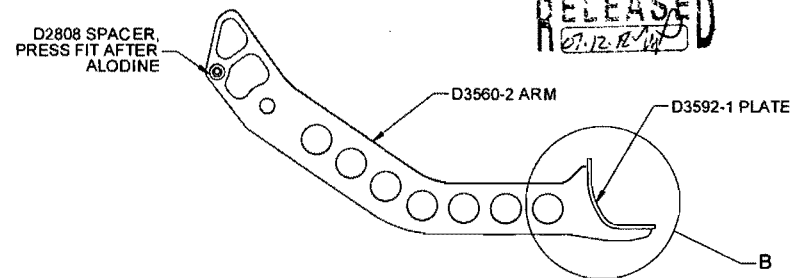
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

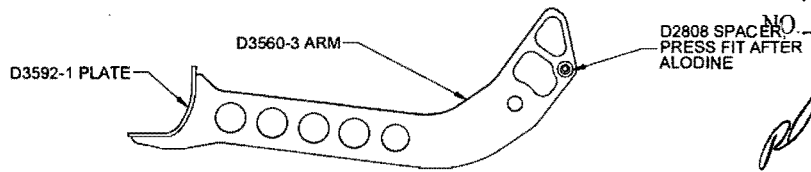
RELEASED
07.12.16



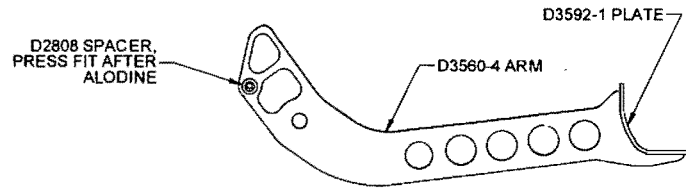
D3560-041 ARM WELDMENT



D3560-042 ARM WELDMENT

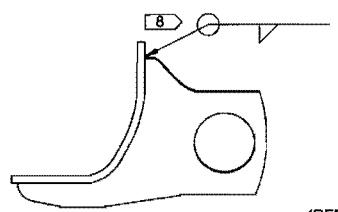


D3560-043 ARM WELDMENT



D3560-044 ARM WELDMENT

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 69421
P11-0512



**DETAIL A
SCALE 1:2**

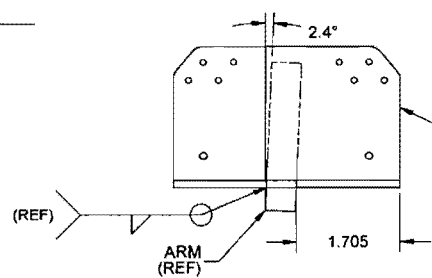
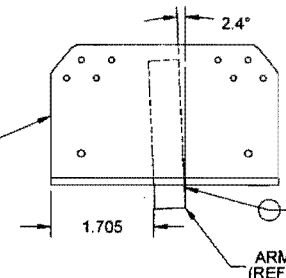
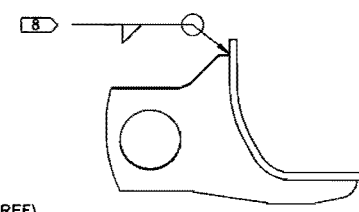


PLATE
(REF)



ARM
(REF)



**DETAIL B
SCALE 1:2**

PARTS LIST

QTY -041	QTY -042	QTY -043	QTY -044	P/N	DESCRIPTION
X				D3560-041	ARM WELDMENT
	X			D3560-042	ARM WELDMENT
		X		D3560-043	ARM WELDMENT
			X	D3560-044	ARM WELDMENT
1	1	1	1	D2808	SPACER
1				D3560-1	ARM
	1			D3560-2	ARM
		1		D3560-3	ARM
			1	D3560-4	ARM
1	1	1	1	D3592-1	PLATE

- NOTES:**
 1) MATERIAL: N/A
 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
 6) IDENTIFICATION: N/A
 7) WEIGHT: 1.23 lbs (TYP)
 8) WELDING: PER DART QSI 004

DESIGN	ADD D2808 PRESS FIT NOTE; REDRAWN IN SOLIDWORKS	DC	07.11.16
DRAWN	REMOVE POWDER COAT	CP	07.06.19
CHECKED	REDESIGN AS WELDMENT, ADD POCKETS	CP	07.01.15
MFG. APPR.	NEW ISSUE	CP	06.09.25
APPROVED		BY	DATE
DE APPR.			
DATE	07.11.16		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D3560	REV. D
TITLE ARM WELDMENT	SHEET 1 OF 5
SCALE 1:4	

COPYRIGHT © 2006 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD

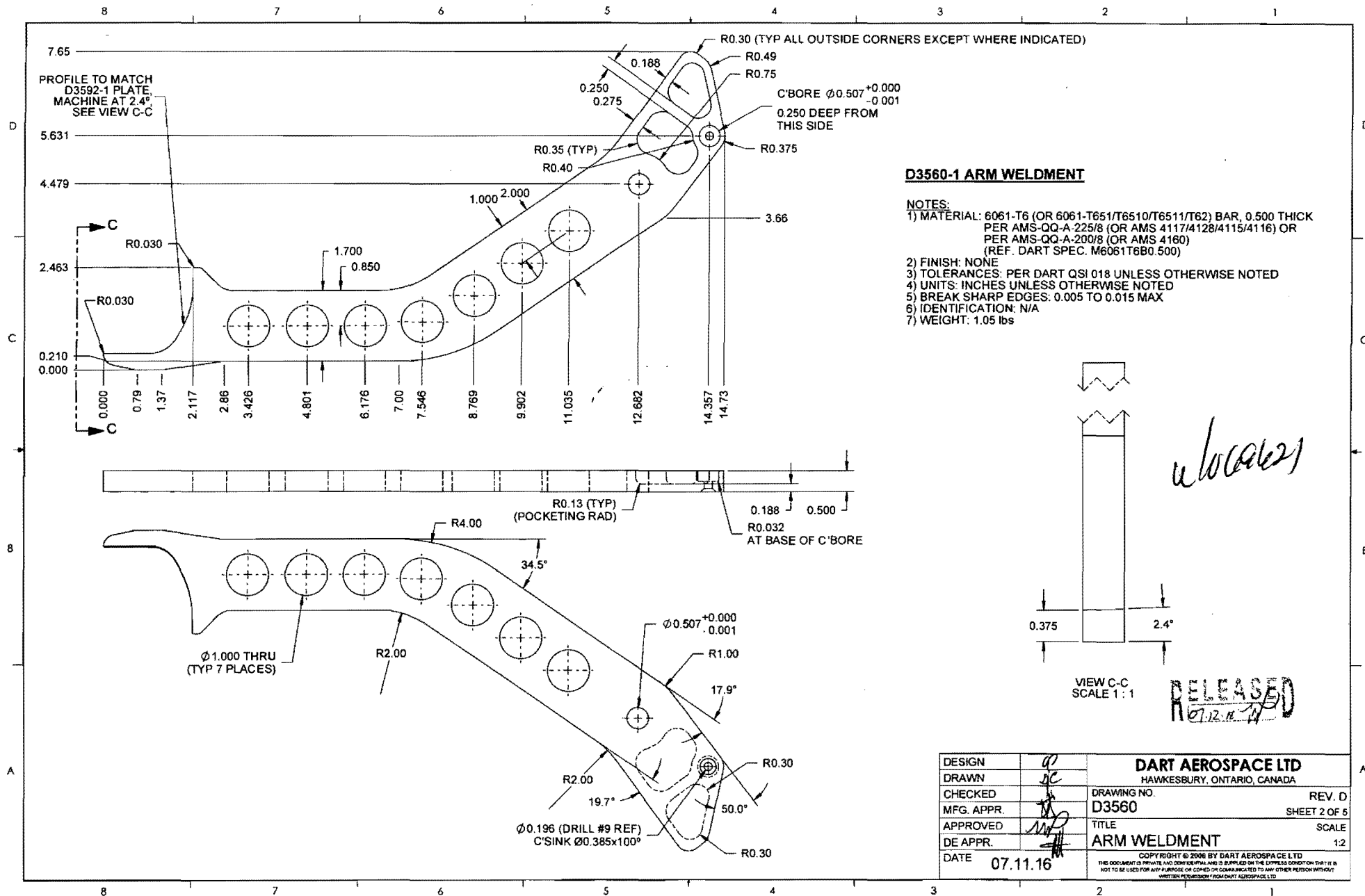
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



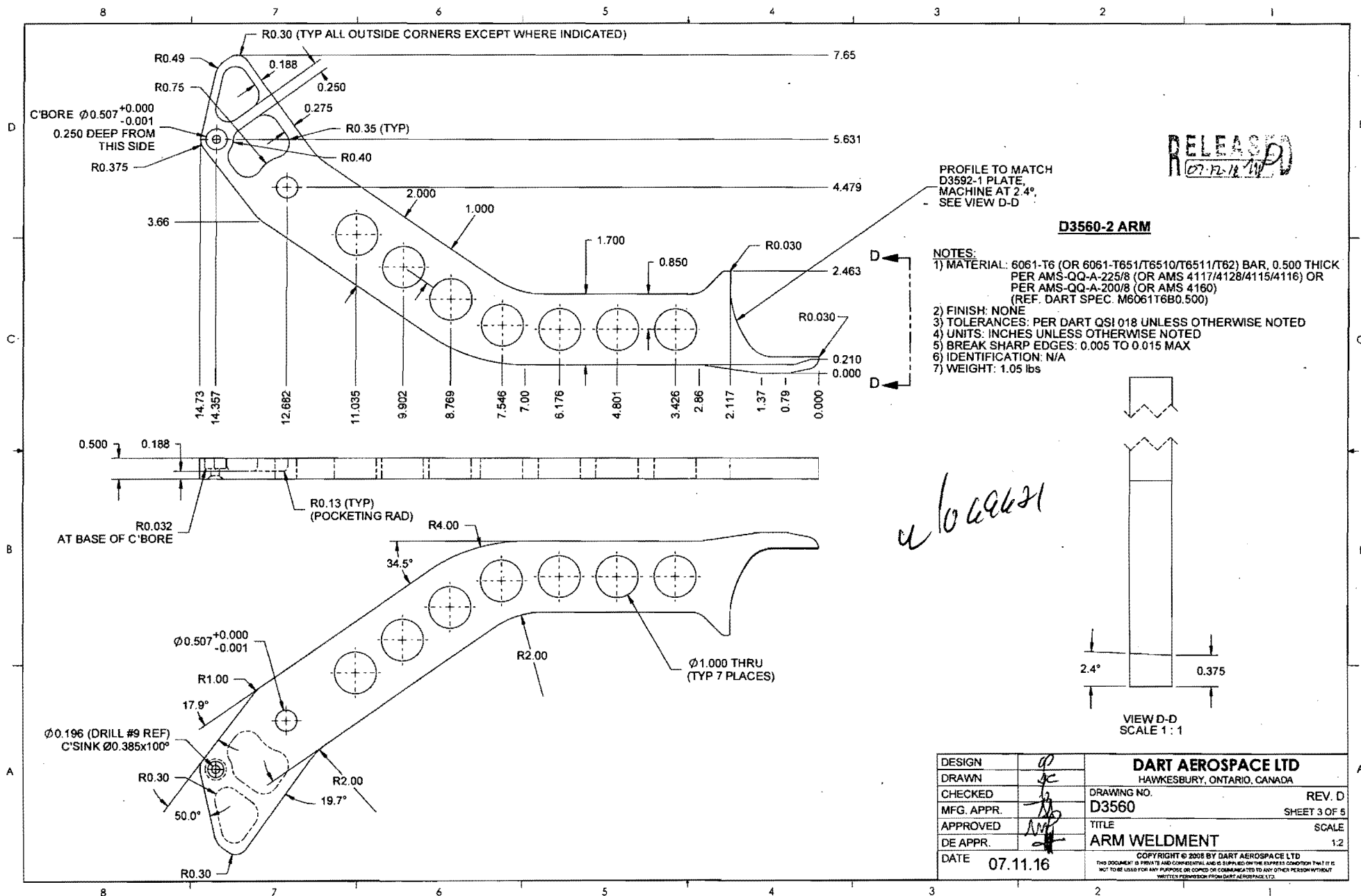
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

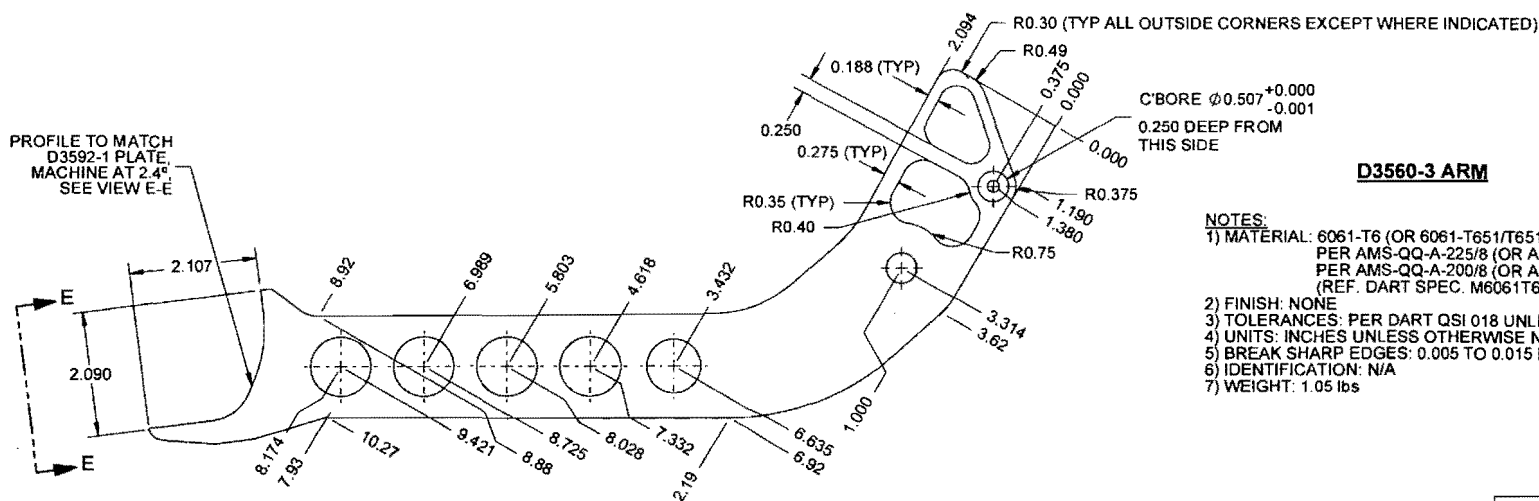
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

PROFILE TO MATCH
D3592-1 PLATE
MACHINE AT 2.4°
SEE VIEW E-E

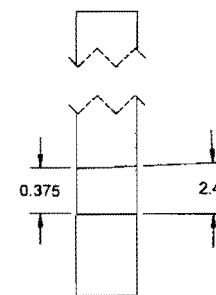
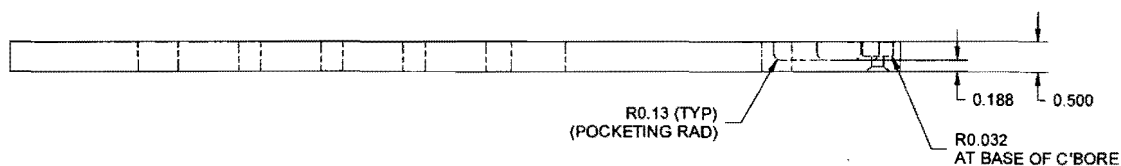


D3560-3 ARM

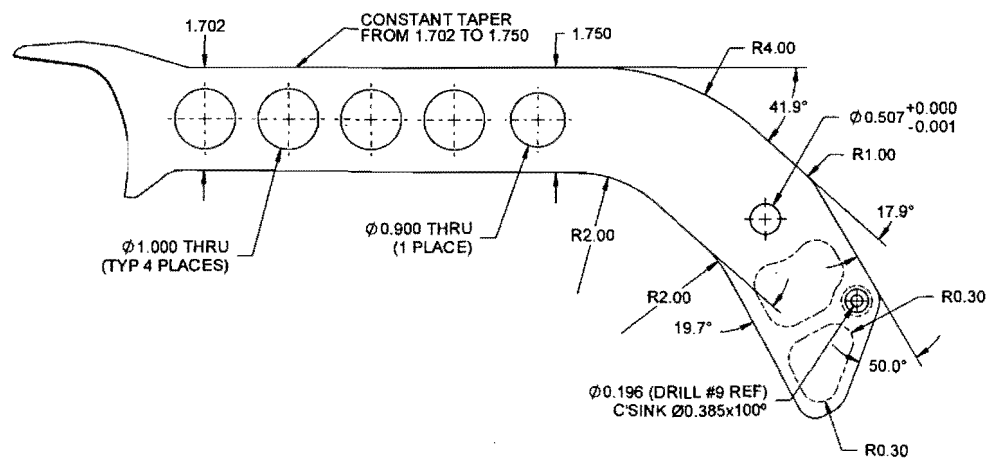
NOTES:

- 1) MATERIAL: 6061-T6 (OR 6061-T651/T6510/T6511/T62) BAR, 0.500 THICK
PER AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR
PER AMS-QQ-A-200/8 (OR AMS 4160)
(REF. DART SPEC. M6061T6B0.500)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.05 lbs

u1009621



VIEW E-E
SCALE 1:1



RELEASED
07.12.14

DESIGN	q	DART AEROSPACE LTD	
DRAWN	AC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AC	DRAWING NO.	REV. 1
MFG. APPR.	AC	D3560	SHEET 4 OF 5
APPROVED	AC	TITLE	SCALE
DE APPR.	AC	ARM WELDMENT	1:2
DATE	07.11.16	COPYRIGHT © 2008 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD			

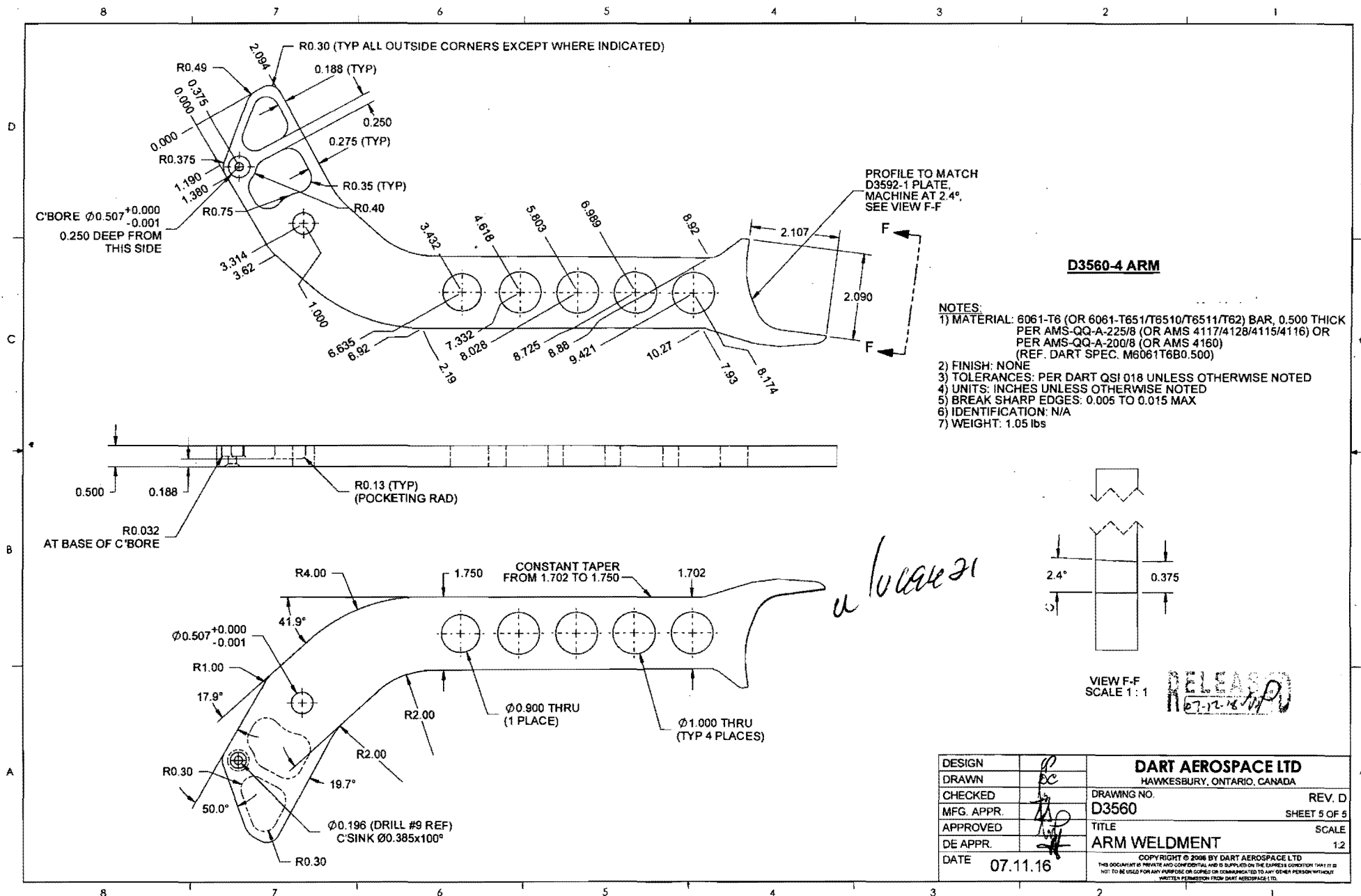
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries